FACT SHEET FOR STATE RECLAIMED WATER PERMIT ST 6182
PERMITEE: COWLITZ SEWER OPERATING BOARD
FACILITY NAME: LED WATER RECLAMATION FACILITY

SUMMARY

Longview Energy Development LLC (LED) proposes to use reclaimed water from the Cowlitz Water Pollution Control Plant for cooling and possibly on-site irrigation at a proposed 290 megawatt natural gas-fired combined cycle, combustion turbine power generation facility within the Port of Longview Industrial area. The Cowlitz treatment plant will provide secondary treated and disinfected wastewater which will be further treated to meet Class A reclaimed water standards by LED at a site located on the Port of Longview property.

The state reclaimed water permit is conditioned to implement the agreed design criteria and the state Water Reclamation and Reuse Standards.

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INTRODUCTION

This fact sheet is a companion document to the draft State Reclaimed Water Permit No. ST 6182. The Departments of Ecology (Ecology) and Health (DOH) are proposing to issue this permit to the Cowlitz Sewer Operating Board, which will allow beneficial use of Class A treated and disinfected reclaimed water at the Longview Energy Development LLC (LED). This fact sheet explains the nature of the proposed discharge, the Departments' decisions on limiting the pollutants in the wastewater prior to use, and the regulatory and technical bases for those decisions.

Washington State law [Revised Code of Washington (RCW) 90.46.030] states that reclaimed water permits shall be issued only to a municipal, quasi-municipal or other governmental entity or to the holder of a waste discharge permit issued under Chapter 90.48 RCW. In accordance with this requirement, the reclaimed water permit is issued to the Cowlitz Sewer Operating Board. Under RCW 90.46.030, DOH may issue a reclaimed water permit for industrial and commercial uses of reclaimed water to the generator of the reclaimed water who may then distribute the water, subject to provisions in the permit governing the location, rate, water quality and purposes of use. RCW 90.46.040 requires that Ecology issue a permit for any land application of reclaimed water and that Ecology shall not issue more than one permit for any individual land application of reclaimed water to a single generator. Per Memorandum of Understanding between Health and Ecology, a comprehensive reclaimed water permit covering all proposed uses will be issued under Ecology's permitting authority.

Reclaimed water flowing out of an industrial process is considered an industrial wastewater and is subject to regulation under the Federal Clean Water Act and state law as appropriate. The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977,1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. Washington State law (RCW 90.48.080 and 90.48.160) requires that a permit be issued before discharge of wastewater to waters of the state is allowed. This includes discharges to groundwater and commercial or industrial discharges to sewerage systems operated by municipalities or public entities, which discharge into public waters of the state. Regulations adopted by the state include procedures for issuing permits [Chapters 173-220 and173-216 Washington Administrative Code (WAC)], technical criteria for discharges from municipal wastewater treatment facilities (Chapter 173-221 WAC) and water quality criteria for ground waters (Chapter 173-200 WAC). Industrial wastewater discharges to surface water and to the sanitary sewer are governed under a separate permit [National Pollutant Discharge Elimination System (NPDES) Permit No. WA0037541] issued to LED. Wastewater discharged by Cowlitz Water Pollution Control Plant to surface waters or distributed to LED for further treatment and beneficial use is governed under NPDES Permit No. WA0037788.

This fact sheet and draft permit are available for review by interested persons as described in Appendix A--Public Involvement Information.

The fact sheet and draft permit have been reviewed by the DOH, the Permittee and LED. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, Ecology will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of Ecology's response. The fact sheet will not be revised. Changes to the permit will be addressed in Appendix D--Response to Comments.

GENERAL INFORMATION	
Applicant	Cowlitz Sewer Operating Board Jointly managed by: Beacon Hill Sewer District, Cowlitz County, City of Kelso and City of Longview 207 Fourth Avenue North, Kelso, WA 98626-4189
Facility Name and Address	Cowlitz Water Pollution Control Plant 467 Fibre Way Longview, Washington 98632 and Longview Energy Development L.C.C. Advanced Treatment Facility 19 International Way Longview, WA 98632
Type of Treatment System:	Secondary Treatment - Activated Sludge AWT to Class A Reclaimed Water – Biological Activated Filter, Coagulation, Sand Filtration and Chlorine Disinfection.
Location of Class A Area	Latitude: 46° 06' 42" N. Longitude: 122° 56' 21" W.
Contact at Facility	CWPC: Jerry Schultz (360) 577-2040 LED: Mark Mullen (503) 464-4170
Responsible Official	D. Alan Slater Chairman, Cowlitz Sewer Operating Board 207 Fourth Avenue North Kelso, WA 98626-4189

BACKGROUND INFORMATION

DESCRIPTION OF THE COLLECTION AND TREATMENT SYSTEM

HISTORY

This is a new water reclamation facility. Longview Energy Development LLC proposes to use reclaimed water from the Cowlitz Water Pollution Control Plant for cooling and possibly on-site irrigation at a proposed 290-megawatt natural gas-fired combined cycle, combustion turbine power generation facility within the Port of Longview Industrial area. The Cowlitz treatment plant will provide secondary treated and disinfected wastewater, which will be further treated to Class A reclaimed water standards by LED at a site located on the Port of Longview property. The Cowlitz treatment plant is currently permitted under NPDES Permit No. WA0037788. Discharges of wastewater from the LED facility will be permitted under NPDES Permit No. WA0037541.

TREATMENT PROCESSES

Treatment processes at the new Class A reclamation facility include biologically activated filters, coagulation, flocculation followed by high-rate rapid sand filters and chlorine disinfection. An operator with at least a state of Washington Class III plant certification will be responsible to oversee the maintenance and operation of the reclaimed water facility. An operator certified by the state of Washington for Class II (or greater) wastewater treatment plant operation will be present at the plant during day shift every day the reclaimed treatment facility is operating. During the periods that the plant operator is not present, the facility will be monitored remotely.

Key process streams and equipment will be instrumented with alarms. Alarm signals will be transmitted by modem to the plant operator and the power plant control room.

DISTRIBUTION SYSTEM AND USE AREA

The Class A reclaimed water will be used for cooling and possibly for on-site irrigation at a proposed 290 megawatt natural gas-fired combined cycle, combustion turbine power generation facility within the Port of Longview Industrial area.

The Permittee, Cowlitz Sewer Operating Board (CSOB), is considered the generator of the reclaimed water and RCW 90.46.120 gives the Permittee the exclusive right to any water generated by the treatment facility. Use and distribution of reclaimed water is exempted for the water right permitting requirements of RCW 90.03.250 and 90.44.060.

RESIDUAL SOLIDS

Residual solids from the advanced treatment facility include backwash from the biological aerated filter and filter backwash. These residuals will be returned to the Cowlitz Water Pollution Control Plant via sanitary sewer and permitted under NPDES Permit No.WA0037541. As an alternative to disposal at the sanitary sewer, these solids may be dewatered and composted or landfilled in accordance with the requirements of the local health department.

WATER RIGHTS SELF-ASSESSMENT

A water rights self-assessment was conducted to determine whether or not there was potential for impairment of existing downstream water rights from the diversion of the wastewater effluent from the Cowlitz Wastewater treatment plant to beneficial use at the LED site. The maximum wastewater effluent flow that would be diverted is a net total of 2.2 cfs. Since the 7Q10 low flow for the receiving water is 97,400 cfs, there is no point of effluent domination within the entire downstream reach of the river. Based on the above information there is no expectation of water rights impairment resulting from this project.

PERMIT STATUS

This is a new Class A water reclamation facility. An application for a permit was submitted to Ecology on August 15, 2001, and accepted by Ecology on October 1, 2001.

SEPA COMPLIANCE

LED's expanded State Environmental Policy Act (SEPA) checklist was submitted to and reviewed by Cowlitz County. Cowlitz County issued a Mitigated Determination of Non-Significance (MDNS) for LED as a 249 MW facility on April 18, 2001. The public comment period ended on May 2, 2001. Few comments were received and Cowlitz County indicated that SEPA compliance had been achieved as of May 3, 2001. On July 18, 2001, a revised SEPA Checklist and Environmental Report for LED was submitted as a 290 MW facility. On August 6, 2001, Cowlitz County issued a Revised Mitigated Determination of Non-Significance for the project. Cowlitz County stated that, "The increase in output from 249 megawatts to 290 megawatts will result in no new significant adverse impacts."

PROPOSED PERMIT LIMITATIONS

The Reclaimed Water Act, Chapter 90.46 RCW, authorized the development of Water Reclamation and Reuse Standards for beneficial use of reclaimed water. Section 1, Article 4 of the Water Reclamation and Reuse Standards require Class A reclaimed water when the beneficial use is cooling water where aerosols or mists are created. Class A reclaimed water is also required for irrigation of open access areas. The approved engineering report includes specific design criteria for this facility.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

All waste discharge permits issued by Ecology must specify conditions requiring available and reasonable methods of prevention, control, and treatment of discharges to waters of the state (WAC 173-216-110).

All reclaimed water permits issued by Ecology must specify conditions demonstrating that the wastewater has been adequately and reliability treated at all times. The Water Reclamation and Reuse Standards, 1997, outline the requirements for level of treatment technology as well as water quality limits necessary for public health protection during the use of reclaimed water. The standards provide four classes of reclaimed water, Classes A, B, C, and D. This facility produces Class A reclaimed water.

Class A is the highest quality of reclaimed water and therefore provides the broadest range of reuse opportunities. Conversely, Class A reclaimed water requires the most stringent treatment and water quality limitations. The technology and water quality requirements for the production of Class A reclaimed water are as follows:

"Class A Reclaimed Water" is reclaimed water that has been adequately and reliably treated and, at a minimum is, at all times, an oxidized, coagulated, filtered, and disinfected wastewater.

1. Oxidized is defined as wastewater in which the organic matter has been stabilized such that the biochemical oxygen demand (BOD_5) does not exceed 30 mg/L and total suspended solids (TSS) does not exceed 30 mg/L, is nonputrescible and contains dissolved oxygen. WAC 173-221-050 provides for the substitution of CBOD effluent limitation for BOD with the following levels of quality: a monthly average of 25 mg/L and a weekly average of 40 mg/L

2. Coagulated wastewater is defined as an oxidized wastewater in which colloidal and finely divided suspended matter have been destabilized and agglomerated prior to filtration by the addition of chemicals or by an equally effective method.

3. Filtered wastewater is defined as an oxidized, coagulated wastewater, which has been passed through natural undisturbed soils or filter media, such as sand or anthracite, so that the turbidity as determined by an approved laboratory method does not exceed an average operating turbidity of 2 nephelometric turbidity units (NTU), determined monthly, and does not exceed 5 NTU at any time.

4. Adequate disinfection is defined as the median number of total coliform organisms in the wastewater after disinfection does not exceed 2.2 per 100 milliliters, as determined from the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform organisms does not exceed 23 per 100 milliliters in any sample.

5. A 0.5 mg/L chlorine residual shall be maintained in the reclaimed water during conveyance from the reclamation facility to the use areas.

The following permit limitations are included :

Parameter	**Average Monthly[a]**	**Average Weekly [b]**	**Location**
Oxidized Wastewater			
$CBOD_5$	25 mg/L	40 mg/L	Secondary effluent [c]
TSS	30 mg/L	45 mg/L	Secondary effluent[c]
Dissolved Oxygen	Shall be measurably present in effluent		Prior to coagulation
Coagulated/ Filtered Wastewater	**Average Monthly[a]**	**Sample Maximum[d]**	
Turbidity	2 NTU	5 NTU	Prior to disinfection
Disinfected - Reclaimed Water	**7-day Median[e]**	**Sample Maximum [f]**	

Parameter	Average Monthly[a]	Average Weekly [b]	Location
Total Coliform	2.2	23	Final disinfected Class A reclaimed water
		Minimum Daily[g]	
Chlorine Residual		0.5 mg/L	Distribution
[a]The average monthly effluent limitation is defined as the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.			
[b]The average weekly effluent limitation is defined as the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.			
[c]Under normal operations the sampling point for CBOD and TSS will be the secondary effluent at the Cowlitz Wastewater Treatment Facility and regulated under NPDES Permit No. WA0037788. (See Condition R1) In the event of notification of a upset that would violate CBOD or TSS effluent limitations or if monitoring is not done at the CSOB, compliance with CBOD and TSS limitations shall be demonstrated by monitoring after a biological unit process at an advanced treatment facility.			
[d]The sample maximum effluent limitation is defined as the highest allowable discharge.			
[e]The median number of total coliform organisms in the reclaimed water after disinfection does not exceed 2.2 per 100 milliliters, as determined from the bacteriological results of the last seven days for which analyses have been completed.			
[f]The number of total coliform organisms shall not exceed 23 per 100 milliliters in any single sample.			
[g]A chlorine residual of at least 0.5 mg/L shall be maintained in the reclaimed water during conveyance to the use area.			

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, that ground water criteria are not violated, and that effluent limitations are being achieved (WAC 173-216-110).

MONITORING SCHEDULE

The monitoring and testing schedule is detailed in the proposed permit under Condition R3. Specified monitoring points and frequencies take into account the quantity and variability of the discharge, the treatment method, significance of pollutants, and cost of monitoring.

Monitoring demonstrates that the treatment train meets the Class A reclaimed water requirements for oxidation, coagulation, filtration, and disinfection as well as the water quality limits at all times.

Monitoring for nitrogen is required to characterize the effluent if it is used for irrigation. This pollutant could have a significant impact on the quality of the groundwater if applied above agronomic rates.

OTHER PERMIT CONDITIONS

LOCATION AND LOADING OF ADVANCED TREATMENT AND USE AREAS

The Reclaimed Water Act states in RCW 90.46.030 that the Permittee may distribute reclaimed water subject to permit provisions governing the location, rate, water quality and purpose of use.

The Permittee is required to maintain adequate capacity to treat the flows and waste loadings at all times. The design criteria for this treatment facility are taken from the Longview Energy Development Final Engineering Report for Water Supply and Wastewater Discharges, August 2001, prepared by HDR, Cosmopolitan Engineering Group and Golder Associates and are as follows:

Monthly average flow (max. month):	2.3 mgd
CBOD average influent loading(max. month):	480 lbs./day
TSS average influent loading (max. month):	575 lbs./day

DISTRIBUTION AND USE OF CLASS A RECLAIMED WATER

The conditions in R5 are based on the Water Reclamation and Reuse Standards to assure that water quality is maintained to protect human health and the environment at all times. These include prohibitions on bypass, alarms, and storage or alternative disposal of substandard water, maintenance of operational records, cross connection control, use area restrictions and enforceable contracts between the Permittee, service providers, and users of reclaimed water.

For irrigation use, the irrigation plan is required to support the engineering report(s) and operations and maintenance manual. This plan shall include a consideration of wastewater application at agronomic rates and should describe and evaluate various irrigation controls.

REPORTING AND RECORDKEEPING REQUIREMENTS

The conditions of R6 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 273-216-110).

OPERATION AND MAINTENANCE

The proposed permit contains Condition R.7 as authorized under RCW 90.48.110, WAC 173-220-150, Chapters 173-230 WAC, WAC 173-240-080, and the Water Reclamation and Reuse Standards. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

RESIDUAL SOLIDS HANDLING

To prevent water pollution the Permittee is required in permit Condition R8 to store and handle all residual solids (grit, screenings, scum, sludge, and other solid waste) in accordance with the requirements of RCW 90.48.080 and state Water Quality Standards.

The disposal of sludge from this facility is regulated as a solid waste under the jurisdiction of the local health district.

PRETREATMENT

In accordance with the Water Reclamation and Reuse Standards, the Permittee is required to control industrial and toxic discharges to the sanitary sewer that may effect reclaimed water quality through either a delegated pretreatment program or by assuring that all applicable discharges have permits issued under the Water Pollution Control Act, Chapter 90.48 RCW, and the State Waste Discharge Permit Regulation, Chapter 173-216 WAC.

GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to ground water permits issued by Ecology.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow Ecology to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending or terminating the permit. Condition G4 requires the Permittee to apply to Ecology prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to submit written notice of significant increases in the amount or nature of discharges (typically new industrial discharges) into the sewer system tributary to the permitted facility. Condition G6 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G7 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Condition G8 requires application for permit renewal 60 days prior to the expiration of the permit. Condition G9 requires the payment of permit fees. Condition G10 describes the penalties for violating permit conditions.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, and to protect human health and the beneficial uses of waters of the state of Washington. Ecology proposes that the permit be issued for five years.

REFERENCES FOR TEXT AND APPENDICES

Longview Energy Development, L.L.C., August 22, 2001, Final Engineering Report for Water Supply and Wastewater Discharges.

Washington State Department of Ecology, January 29, 2001, NPDES Permit No. WA-0037788 Cowlitz Water Pollution Control Plant.

Washington State Department of Ecology and Department of Health, 1997. Water Reclamation and Reuse Standards, Ecology Publication # 97-23. 73 pp.

APPENDICES

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

Ecology has tentatively determined to issue a permit to the applicant listed on page one of this fact sheet. The permit contains conditions and effluent limitations, which are described in the rest of this fact sheet.

Public notice of application was published on October 3, 2001, and October 10, 2001, in the *Longview Daily News* to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

Ecology will publish a Public Notice of Draft (PNOD) on _____ in the *Longview Daily News* to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Water Quality Permit Coordinator
Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the 30-day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. Ecology will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-216-100). Public notice regarding any hearing will be circulated at least 30 days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing.

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

Ecology will consider all comments received within 30 days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. Ecology's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from Ecology by telephone (360) 407-6279, or by writing to the address listed above.

This permit was written by Kathy Cupps.

APPENDIX B--GLOSSARY

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation--The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD_5--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD_5 is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of the collection or treatment facility.

Chlorine--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring –Uninterrupted, unless otherwise noted in the permit.

Distribution Uniformity--The uniformity of infiltration (or application in the case of sprinkle or trickle irrigation) throughout the field expressed as a percent relating to the average depth infiltrated in the lowest one-quarter of the area to the average depth of water infiltrated.

Engineering Report--A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Soil Scientist--An individual who is registered as a Certified or Registered Professional Soil Scientist or as a Certified Professional Soil Specialist by the American Registry of Certified Professionals in Agronomy, Crops, and Soils or by the National Society of Consulting Scientists or who has the credentials for membership. Minimum requirements for eligibility are: possession of a baccalaureate, masters, or doctorate degree from a U.S. or Canadian institution with a minimum of 30 semester hours or 45 quarter hours professional core courses in agronomy, crops or soils, and have 5,3,or 1 years, respectively, of professional experience working in the area of agronomy, crops, or soils.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Coliform Bacteria--A microbiological test which detects and enumerates the total coliform group of bacteria in water samples.

Total Dissolved Solids--That portion of total solids in water or wastewater that passes through a specific filter.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent pollution of the receiving water.

APPENDIX C--TECHNICAL CALCULATIONS

APPENDIX D--RESPONSE TO COMMENTS

Cowlitz Sewer Operating Board, December 14, 2001

Comment:

Page 12, Section R6.C., 3rd paragraph, 3rd sentence: The word "non" should be replaced with the word "no," so the sentence would read as follows:

"After submitting the notification, no monthly report shall be required until operations resume."

Response:

"Non" was a typo, the type has been fixed.